


Name:			
Enrolment No:			
UPES End Semester Examination, December 2024			
Course: BT-ADE Program: Embedded System & Control Time Course Code: ECEG-4045 Instructions: Attempt all the questions		Semester: VII Time: 03 hrs. Max. Marks: 100	
SECTION A (5Qx4M=20Marks) , Answer all questions			
S. No.		Marks	CO
Q 1	Explain the hardware building block of embedded system with proper diagram.	4	CO1
Q2	Define the I2C in HCS12 microcontroller system.	4	CO2
Q3	Describe the input and output devices used with the HCS12 microcontroller.	4	CO3
Q4	Elucidate hardware and software development tools for HCS12 microcontroller.	4	CO4
Q5	What is Intertask communication in Real-Time Operating System.	4	CO5
SECTION B (4Qx10M= 40 Marks)			
Q 6	Write a short note on the HCS12 hardware system with advantages and applications.	10	CO1
Q7	Explain the memory system of HCS12 microcontroller system with proper diagram.	10	CO2
Q8	Describe how to interface a push button with the HCS12 microcontroller, including the necessary programming code.	10	CO3
Q9	Explain the fundamental concepts of an RTOS (Real-Time Operating System) and its various types. OR Explain the Implementation of RTOS with some case studies.	10	CO5
SECTION-C (2Qx20M=40 Marks)			
Q10	Explain the interrupts in the HCS12 microcontroller system, with suitable diagram.	20	CO2
Q11	Describe how to interface an DC motor with the HCS12 microcontroller, including the necessary programming code. OR	20	CO3

	Describe how to interface an LCD with the HCS12 microcontroller, including the necessary programming code.		
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